



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

[Handwritten Signature]

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,338	02/17/2004	Roger Thorpe	ISTOR.013A	9429
20995	7590	02/07/2008	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			PATEL, HARESH N	
2040 MAIN STREET			ART UNIT	PAPER NUMBER
FOURTEENTH FLOOR			2154	
IRVINE, CA 92614				

NOTIFICATION DATE	DELIVERY MODE
02/07/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No.	Applicant(s)
	10/781,338	THORPE ET AL.
	Examiner Haresh Patel	Art Unit 2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 November 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
 - 4a) Of the above claim(s) 1-20 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 21-37 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 February 2004 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>9/29/2004, 6/15/2004</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claims 1-37 are subject to examination. Claims 1-20 are withdrawn.

Priority

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e), i.e., 60/448,207, is acknowledged.

Election/Restrictions

3. Applicant's election without traverse of Group V in the reply filed on 11/21/07 is acknowledged.

Drawings

4. The figures submitted on 7/19/2004 are acknowledged.

Information Disclosure Statement

5. An initialed and dated copy of the applicant's IDS form 1449, paper dated, 9/29/04, 6/15/04, is attached to the instant Office action.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 21-26, 28-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Ghosh et al. 2003/0233494 (Hereinafter Ghosh).

8. Referring to claim 21, Ghosh discloses a system for accelerated TCP and iSCSI protocol processing, the system comprising: a storage network processor (SNP) configured to offload at least some packet processing tasks from a general purpose processor associated with a host device (e.g., page 2), the storage network processor further comprising: a hardware-accelerated receive module configured to receive TCP network packets (e.g., page 2); a hardware-accelerated TCP protocol processing module configured to process common case TCP network packets to resolve embedded iSCSI instructions (e.g., page 3); and a hardware-accelerated transmit module configured to transmit TCP network packets (e.g., page 3).

9. Referring to claim 22, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, offloading of the packet processing tasks occurs at several layers associated with a TCP protocol stack including an IP layer and a TCP layer (e.g., page 2).

10. Referring to claim 23, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, offloading of the packet processing tasks occurs at an iSCSI layer associated with an iSCSI protocol stack (e.g., page 2).

11. Referring to claim 24, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the packet processing tasks comprise packet parsing operations (e.g., page 3).

12. Referring to claim 25, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, ,the packet parsing operations are directed towards resolving and processing the embedded iSCSI instructions (e.g., page 3).

13. Referring to claim 26, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor accelerates packet parsing operation to accommodate near line-rate receiving and transmission of TCP network packets (e.g., page 2).

14. Referring to claim 28, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to offload protocol processing associated with acknowledgement generation (e.g., page 3).

15. Referring to claim 29, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to offload protocol processing associated with window management (e.g., page 2).

16. Referring to claim 30, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to offload protocol processing associated with timer maintenance (e.g., page 3).

17. Referring to claim 31, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with acknowledgement generation (e.g., page 2).

18. Referring to claim 32, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with window management (e.g., page 3).

19. Referring to claim 33, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with timer maintenance (e.g., page 3).

20. Referring to claim 34, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with window management (e.g., page 3).

21. Referring to claim 35, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with retransmission (e.g., page 8).

22. Referring to claim 36, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses a remote memory channel used to transfer data and meta-data to a partner storage controller to provide at least a degree of fault tolerance (e.g., page 3).

23. Referring to claim 37, Ghosh discloses the claimed limitations as disclosed above. Ghosh also discloses wherein storage data may be re-created on the partner storage controller (e.g., page 3).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghosh in view of “Official Notice”.

26. Referring to claim 27, Ghosh discloses the claimed limitations as rejected above.

However Ghosh does not specifically mention about the line rate is approximately 10 Gigabit/sec. “Official Notice” is taken that both the concept and advantages of providing the line rate is approximately 10 Gigabit/sec is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the line rate is approximately 10 Gigabit/sec with the teachings of Ghosh in order to facilitate usage of the line rate is approximately 10 Gigabit/sec because it would support storage operations at higher rate though the offloading.

27. Claims 21-26, 28-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Rangan et al. 2004/0148376 (Hereinafter Rangan).

28. Referring to claim 21, Rangan discloses a system for accelerated TCP and iSCSI protocol processing, the system comprising: a storage network processor (SNP) configured to offload at least some packet processing tasks from a general purpose processor associated with a host device (e.g., page 2), the storage network processor further comprising: a hardware-accelerated receive module configured to receive TCP network packets (e.g., page 2); a hardware-accelerated TCP protocol processing module configured to process common case TCP network packets to resolve embedded iSCSI instructions (e.g., page 3); and a hardware-accelerated transmit module configured to transmit TCP network packets (e.g., page 3).

29. Referring to claim 22, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, offloading of the packet processing tasks occurs at several layers associated with a TCP protocol stack including an IP layer and a TCP layer (e.g., page 4).

30. Referring to claim 23, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, offloading of the packet processing tasks occurs at an iSCSI layer associated with an iSCSI protocol stack (e.g., page 4).

31. Referring to claim 24, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the packet processing tasks comprise packet parsing operations (e.g., page 6).

32. Referring to claim 25, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the packet parsing operations are directed towards resolving and processing the embedded iSCSI instructions (e.g., page 3).

33. Referring to claim 26, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the storage network processor accelerates packet parsing operation to accommodate near line-rate receiving and transmission of TCP network packets (e.g., page 6).

34. Referring to claim 28, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the storage network processor is configured to offload protocol processing associated with acknowledgement generation (e.g., page 5).

35. Referring to claim 29, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the storage network processor is configured to offload protocol processing associated with window management (e.g., page 2).

36. Referring to claim 30, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the storage network processor is configured to offload protocol processing associated with timer maintenance (e.g., page 3).

37. Referring to claim 31, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with acknowledgement generation (e.g., page 4).

38. Referring to claim 32, Rangan discloses the claimed limitations as disclosed above. Rangan also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with window management (e.g., page 5).

39. Referring to claim 33, Rangan discloses the claimed limitations as disclosed above.

Rangan also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with timer maintenance (e.g., page 4).

40. Referring to claim 34, Rangan discloses the claimed limitations as disclosed above.

Rangan also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with window management (e.g., page 8).

41. Referring to claim 35, Rangan discloses the claimed limitations as disclosed above.

Rangan also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with retransmission (e.g., page 6).

42. Referring to claim 36, Rangan discloses the claimed limitations as disclosed above.

Rangan also discloses a remote memory channel used to transfer data and meta-data to a partner storage controller to provide at least a degree of fault tolerance (e.g., page 5).

43. Referring to claim 37, Rangan discloses the claimed limitations as disclosed above.

Rangan also discloses wherein storage data may be re-created on the partner storage controller (e.g., page 7).

44. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rangan in view of "Official Notice".

45. Referring to claim 27, Rangan discloses the claimed limitations as rejected above. However Rangan does not specifically mention about the line rate is approximately 10 Gigabit/sec. "Official Notice" is taken that both the concept and advantages of providing the line rate is approximately 10 Gigabit/sec is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the line rate is approximately 10 Gigabit/sec with the teachings of Rangan in order to facilitate usage of the line rate is approximately 10 Gigabit/sec because it would support storage operations at higher rate though the offloading.

46. Claims 21-26, 28-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Pandya 2004/0148376 (Hereinafter Pandya).

47. Referring to claim 21, Pandya discloses a system for accelerated TCP and iSCSI protocol processing, the system comprising: a storage network processor (SNP) configured to offload at least some packet processing tasks from a general purpose processor associated with a host device (e.g., page 2), the storage network processor further comprising: a hardware-accelerated receive module configured to receive TCP network packets (e.g., page 2); a hardware-accelerated TCP protocol processing module configured to process common case TCP network packets to resolve embedded iSCSI instructions (e.g., page 4); and a hardware-accelerated transmit module configured to transmit TCP network packets (e.g., page 4).

48. Referring to claim 22, Pandya discloses the claimed limitations as disclosed above.

Pandya also discloses wherein, offloading of the packet processing tasks occurs at several layers associated with a TCP protocol stack including an IP layer and a TCP layer (e.g., page 5).

49. Referring to claim 23, Pandya discloses the claimed limitations as disclosed above.

Pandya also discloses wherein, offloading of the packet processing tasks occurs at an iSCSI layer associated with an iSCSI protocol stack (e.g., page 5).

50. Referring to claim 24, Pandya discloses the claimed limitations as disclosed above.

Pandya also discloses wherein, the packet processing tasks comprise packet parsing operations (e.g., page 6).

51. Referring to claim 25, Pandya discloses the claimed limitations as disclosed above.

Pandya also discloses wherein, the packet parsing operations are directed towards resolving and processing the embedded iSCSI instructions (e.g., page 4).

52. Referring to claim 26, Pandya discloses the claimed limitations as disclosed above.

Pandya also discloses wherein, the storage network processor accelerates packet parsing operation to accommodate near line-rate receiving and transmission of TCP network packets (e.g., page 6).

53. Referring to claim 28, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to offload protocol processing associated with acknowledgement generation (e.g., page 5).

54. Referring to claim 29, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to offload protocol processing associated with window management (e.g., page 2).

55. Referring to claim 30, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to offload protocol processing associated with timer maintenance (e.g., page 4).

56. Referring to claim 31, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with acknowledgement generation (e.g., page 5).

57. Referring to claim 32, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with window management (e.g., page 5).

58. Referring to claim 33, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with timer maintenance (e.g., page 5).

59. Referring to claim 34, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with window management (e.g., page 9).

60. Referring to claim 35, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein, the storage network processor is configured to accelerate protocol processing associated with retransmission (e.g., page 6).

61. Referring to claim 36, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses a remote memory channel used to transfer data and meta-data to a partner storage controller to provide at least a degree of fault tolerance (e.g., page 5).

62. Referring to claim 37, Pandya discloses the claimed limitations as disclosed above. Pandya also discloses wherein storage data may be re-created on the partner storage controller (e.g., page 7).

63. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pandya in view of "Official Notice".

64. Referring to claim 27, Pandya discloses the claimed limitations as rejected above.

However Pandya does not specifically mention about the line rate is approximately 10 Gigabit/sec. "Official Notice" is taken that both the concept and advantages of providing the line rate is approximately 10 Gigabit/sec is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the line rate is approximately 10 Gigabit/sec with the teachings of Pandya in order to facilitate usage of the line rate is approximately 10 Gigabit/sec because it would support storage operations at higher rate though the offloading.

Conclusion

In order to expedite the prosecution of this case, multiple references are used for the rejections to demonstrate that several references disclose the claimed subject matter of the claims.

Examiner has cited particular columns and line numbers and/or paragraphs and/or sections and/or page numbers in the reference(s) as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety, as potentially teaching, all or part of the claimed invention, as well as the context of the passage, as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (571) 272-3973. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn, can be reached at (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HARESH PATEL

PRIMARY EXAMINER

February 3, 2008